

MICRODON LARVAE IN PSEUDOMYRMA NESTS.*

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The larvae of the Syrphid flies belonging to the genus *Microdon* are of peculiar interest to the entomologist both on account of their occurrence in ant nests and because of their remarkable appearance which is more like that of slugs, planarians or scale-insects than Dipteron larvae. In Europe they have long been known to occur in the nests of several Formicidae and even in the nests of *Vespa crabro*.†

Wasmann‡ records the occurrence of the larva and pupa of *Microdon mutabilis* L. with *Formica fusca*, *F. rufa*, *F. rufibarbis*, *Lasius niger*, *L. brunneus* and *L. flavus*, and of *Microdon devius* L. with *F. fusca*, *F. sanguinea*, *F. rufa* and *L. fuliginosus*. Adlerz§ found a species in the nest of *Camponotus herculeanus*. In the United States *Microdon* larvae are occasionally found with *Camponotus pennsylvanicus* and *Formica integra*, and a care-

* Contributions from the Zoological Laboratory of the University of Texas, No. 20.

†Wasmann. Vergleichende Studien ueber Ameisen gaeste und Termitengaeste Tijdschr. voor Entomol. Bd. 33, 1890.

‡ Kritisches Verzeichniss der myrmekophilen und termitophilen Arthropoden. Berlin 1894 pp. 173 and 175.

§ Myrmecologisk Notiser. Entomol. Tidskrift 1896 pp. 131-132.)

larvae of *Microdon mutabilis* were completely ignored by the ants in a mixed colony of *Formica sanguinea-fusca*. But he observed that the fly, which is covered with delicate yellow pile, was assiduously licked by *F. sanguinea* although it soon died. Except for this last observation, which relates only to its imaginal stage, *Microdon* may be regarded as belonging to Wasmann's category of synoeketic myrmecophiles, or indifferently tolerated guests, a great company which also comprises the tiny crickets of the genus *Myrmecophila*.*

The imagines of a number of species of *Microdon* have been described from

North America but they all appear to be rare insects. They fly reluctantly and are fond of lurking about the roots of grasses and other plants in situations where they readily elude the observation of the most careful collector. I am unable to conjecture to which of the described Mexican species the larva observed in the *Pseudomyrma* nests belongs. The accompanying photograph will enable any future observer to identify it without much difficulty, even if it should be found, as I have no doubt it will be, in the nests of other species of ants in Mexico and Central America.

NOTES ON THE MATING OF *ATTACUS CECROPIA* AND OTHERS.

BY CAROLINE G. SOULE, BROOKLINE, MASS.

In most of the large collections of *cecropia* cocoons which I have examined the female pupae have outnumbered the male by about five to one, twice by three to one. For this reason I have inferred that the males were polygamous, and this spring I have tested them, as the moths emerged very early.

Close observation has convinced me that the female *cecropia* requires sixteen hours out of the cocoon before she is ready to mate. In no instance did a female protrude the whole ovipositor

sooner, and in no instance did the male in the cage with her attempt mating or seem in the least attracted or excited before the protrusion of the whole ovipositor. Partial protrusion occurs earlier.

I feel convinced that there is a different odor diffused when the whole ovipositor is protruded, in the case of all the large Saturniids, and often I think I can detect it in spite of the previous powerful odor of both male and female.

With one exception no female flew or moved about the cage after her wings were expanded until mating had taken place, nor did any female show the least sign of noticing the male or of preference

*See Wheeler, The Habits of *Myrmecophila nebrascensis* Bruner. *Psyche*, Oct., 1900, pp. 111-115; and Wasmann, Zur Lebensweise der Ameisengrillen (*Myrmecophila*). *Natur u. Offenbarung*. 47. Bd. 1901 pp. 129-152).